UNITED STATES SPECIAL OPERATIONS COMMAND

Proposal Submission

The United States Operations Command's (USSOCOM) mission includes developing and acquiring unique special operations forces (SOF) equipment, material, supplies and services. Desired SOF operational characteristics for systems, equipment and supplies include: lightweight and micro-sized; reduced signature/low observable; built-in survivability; modular, rugged, reliable, maintainable and simplistic; operable in extreme temperature environments; water depth and atmosphere pressure proof; transportable by aircraft, ship and submarine, and deployable by airdrop; LLPI/LPD jam resistant C3I, electronic warfare capable of disruption and deception; near real-time surveillance, intelligence and mission planning; highly lethal and destructive; low energy/power requirements; and compatible with conventional force systems.

USSOCOM is seeking small businesses with a strong research and development capability and an understanding of the SOF operational characteristics. The topics represent a portion of the problems encountered by SOF in fulfilling its mission.

Inquires of a general nature or questions concerning the administration of the SBIR program should be addressed to:

United States Special Operations Command
Attn: SOAL-KS/Ms. Karen L. Pera
7701 Tampa Point Blvd.
MacDill Air Force Base, Florida 33621-5316
Tel: (813) 840-5514
Fax: (813) 840-5481
Email: perak@socom.mil

USSOCOM has identified 3 technical topics for the FY 99.2 solicitation. Proposals will only be accepted for these 3 topics. The USSOCOM technical offices responsible for the research and development in these specific areas initiated topics. The same office is responsible for the technical evaluation of the proposals. Proposal evaluation factors are listed below. Each proposal must address each factor in order to be considered for an award. Scientific and technical information assistance may be requested by using the DTIC SBIR Interactive Technical Information System (SITIS).

Firms are encouraged to submit a proposal with an optional task, which would be performed during the period between Phase I, completion and Phase II contract award. The optional task provides the opportunity to reduce the gap between Phase I and II funding. The maximum amount of SBIR funding used for an USSOCOM Phase I award is $100,000. Proposals that include the option task shall not exceed $70,000 for Phase I and $30,000 for Phase I Option. Options must be submitted with the basic Phase I proposal and will be included in the Phase I proposal 25-page limitation. The basic Phase I proposal shall be evaluated exclusive of the option tasks and must be proposed and priced separately. The option portion of the proposal shall not exceed $30,000, not exceed three months in duration, and will be evaluated using the same evaluation criteria as Phase I proposals. The transition option work shall be included as an option in the Phase I contract and evaluated for USSOCOM unilateral exercise at any time after Phase I award through the conclusion of the basic Phase I contract. The maximum time frame for a Phase I with or without option is 6 months. Exercise of any option shall be at the sole discretion of USSOCOM and shall not obligate USSOCOM to make a Phase II award.

Evaluation Criteria – Phase I & II

1) The soundness, technical merit, and innovation of the proposed approach and its incremental progress toward topic or subtopic solution.

2) The qualifications of the proposed principal/key investigators supporting staff, and consultants. Qualifications include not only the ability to perform the research and development but also the ability to commercialize the results.

3) The potential for commercial (government or private sector) application and the benefits expected to accrue from this commercialization.

Selection of proposals for funding is based upon technical merit and the evaluation criteria included in the solicitation. As funding is limited, USSOCOM will select and fund only those proposals considered to be superior in overall technical quality and most critical. USSOCOM may fund more than one proposal in a specific topic area if the technical quality of the proposals are deemed superior, or it may fund no proposals in a topic area.

USSOCOM also encourages contractors to participate in the SBIR Fast Track program as described in the DOD 99.2 Solicitation. Proposing Options in the Initial proposal will not prevent a contractor from participating in the Fast Track Program, however, the total USSOCOM funds for a Phase I, Options, and the Fast Track funding will not exceed $140,000. It is anticipated the vast majority of Fast Track proposals will receive interim funding between Phases I and II, and that the percentage of Phase I Fast Track projects that are selected for Phase II awards should be significantly higher that the overall percentage of Phase I projects that are selected for Phase II.

The Phase II enhancement plan for the Special Operation Command is intended to encourage the acquisition programs to leverage the technology being developed under the SBIR program. The SBIR program will provide a one to four match of SBIR dollars to non-SBIR program dollars (from acquisition programs, the private sector, etc.) for Phase II work, not to exceed $100,000 in additional SBIR funding. The additional SBIR dollars will only be available for testing and/or further development that will result in a prototype as a deliverable. Offerors are strongly encouraged to develop a Phase II proposal that will include a tangible product to be used for marketing purposes.

Electronic Submission Requirements

USSOCOM is implementing an electronic proposal submission process. The entire proposal, comprising of the technical proposal, Appendix A & B, and Company Commercialization Report (Appendix E) will be submitted electronically. Internet web site for submission of proposals is http://www.tda.ecrc.ctc.com/socom/default.htm. This site will guide you through the proposal submission process. Firms not able to obtain Internet access must request an exemption by calling (813) 840-5514 by Monday, August 9, 1999 by 4:30 PM EDT. Postal submission includes one original signed proposal with all forms plus three copies sent directly to the following address:

United States Special Operations Command
Attn: SOAL-KB/SBIR Program, Topic 99-00
7701 Tampa Point Blvd.
MacDill Air Force Base, Florida 33621-5316

USSOCOM currently requires all Phase I monthly reports to be submitted via e-mail. Offerors must understand e-mail is the communication medium of choice for the SBIR program. Should an offeror be awarded a Phase I, the offeror will be expected to be able to communicate reports via e-mail.

Electronic technical Proposal Preparation

The term "Technical Proposal" refers to the part of the submission as described in Section 3 of the Solicitation. WordPerfect, Text, MS Word and MSWorks are the preferred formats for submission of proposals for all systems. Please use standard fonts in order to prevent conversion difficulties. The offeror is encouraged, but not required, to embed graphics within the work processed document. Separate files may be submitted as Bit-Mapped (.bmp), Graphics Interchange Format(.gif), JPEG (.jpg), PC Paintbrush (.pcx), WordPerfectGraphic (.wpg) and Tagged Image Format (.tif). The various files comprising the electronic version are required to reflect the paper version and will not exceed the page limitation. The offeror is responsible for performing a virus check on each proposal submitted via the internet address. The detection of a virus on any submitted electronic technical proposal may be cause for the rejection of the proposal. Offerors will receive an electronic confirmation receipt of the proposal. The proposal will not be opened prior to the closing date and time. Withdrawal of proposals must include the topic number and the title of the proposal and may only be made by an officer of the company.

USSOCOM offers information on the Internet about its SBIR program at http://www.socom.mil.

USSOCOM
FY 99.2 SBIR TOPIC INDEX

Sensors

SOCOM 99-004	Individual SOF Operator
SOCOM 99-005	Retro Reflector Detector
SOCOM 99-006	Ruggedized Digital Camera

USSOCOM
FY 99.2 TOPIC DESCRIPTIONS

SOCOM 99-004 TITLE: Individual SOF Operator

TECHNOLOGY AREAS: Sensors

OBJECTIVE: Develop a head-worn sensor package to enable the SOF Operator to utilize either a LWIR sensor, a NIR sensor, or a combination of the two. The system would aid the individual SOF operator with navigation and target detection during times of limited vision.

DESCRIPTION: SOF operators are required to operate during darkness and environments where vision is limited due to smoke and other obscurants. Current capabilities exist that permit the individual to operate in such environments with limited capabilities. The desired system would utilize the benefits of two night vision capabilities--LWIR and NIR. The system would allow the operator to select from either source and would allow the operator to combine the inputs from both sources in varying amounts. The SOF operator would view the sensor outputs via a head-worn display. Due to the utilization of this system as a navigational tool, the system should be head-worn. Due to the need for ballistic protection, the desired weight of the head-worn portion of the system is 1.25 pounds with a maximum of 2.25 pounds. The entire system is not required to be head worn; for example, the power source and/or a portion of the electronics and system controls may be separate from the actual head-worn components. The total system weight shall not exceed 6.0 pounds. The system shall provide detection of man targets at a minimum of 100 meters. The system shall operate in harsh environments, to include: both hot and cold temperature extremes, high humidity, conditions of salt-water spray, and submersion in salt water to a depth of 1.0 meter. Due to the use of two separate sensors, a single aperture is desired for the elimination of parallax. In the event that two separate apertures are employed, the system must provide sensor adjustments to limit the parallax for the specified applications. The LWIR sensor shall provide a 40° horizontal by 30° vertical field-of-view (FOV). The NIR sensor must match the 40° FOV along the center axis as a minimum. Both sensors shall provide unity power magnification.

PHASE I: Design and fabricate a field demonstration system as part of Phase I. The system shall be evaluated to determine its performance during various environments and mission profiles. Support for the evaluations shall be provided to insure the operation of the system and to perform modifications when possible.

PHASE II: Based on the results of Phase I, design and fabricate a second system for further evaluation. The Phase II system should include design changes to meet the desired goals of the system to include weight and a single aperture. The contractor shall support the evaluations, upon request, and incorporate required modifications.

PHASE III COMMERCIAL POTENTIAL: This system has great potential to law enforcement applications, such as search and rescue or locating criminal suspects.

SOCOM 99-005 TITLE: Retro Reflector Detector

TECHNOLOGY AREAS: Sensors

OBJECTIVE: Take advantage of emerging illuminator/sensor technologies to develop a family of devices to detect the use of optical equipment, e.g., ambient light magnifiers, thermal detectors, spotting scopes, rifle scopes.

DESCRIPTION: Take advantage of emerging illuminator/sensor technologies to develop a family of devices to detect the use of optical equipment, e.g., ambient light magnifiers, thermal detectors, spotting scopes, rifle scopes. It would be best if this device would detect the use of this equipment before the threat platform is within hazardous range (nominally at distances greater than 1500 meters). A family of these detection devices could include short-range man-portable and longer-range platform-based versions.

PHASE I: The purpose of this phase is to demonstrate a viable approach. Design and fabricate a laboratory prototype, and demonstrate using common battlefield sensors. Any illuminators used for this project must be eye safe.

PHASE II: Based upon the results of Phase I, fabricate a prototype suitable for limited field testing, which minimizes weight and volume, as well as power consumption; and support Government testing.

PHASE III DUAL USE COMMERCIAL APPLICATIONS: These devices would have application across DOD and law enforcement operations, anywhere more capable battlefield sensors are found. Also, there are opportunities to apply this technology to vehicle, aircraft, and maritime platforms as avoidance sensors.

SOCOM 99-006 TITLE: Ruggedized Digital Camera

TECHNOLOGY AREAS: Sensors

OBJECTIVE: Develop a Ruggedized Digital Camera capable of operating underwater to depths up to 100 ft without the need of a separate environmental housing and on land to 15,000 ft. (MSL).

DESCRIPTION: Operational requirements to successfully carry out surveillance and reconnaissance missions specifies the need for a ruggedized digital camera that is capable of operation both underwater at depths to 100ft and on land to elevations of 15,000 (MSL). The preference is for a camera that does not require a separate environmental housing since these housings tend to be both fragile and bulky. Emerging mission requirements continue to specify the need for a ruggedized digital camera capable of operating while subjected to severe environmental conditions often encountered during the conduct of surveillance and reconnaissance missions. The Nikonos RS-Based Kodak DCS-425/435 met this requirement. Unfortunately, the Nikonos RS is now out of production resulting in the cancellation of the Kodak DCS-425/435. To meet this requirement a replacement for the Kodak DCS-425/435 is needed. In addition to the capabilities of the Kodak DCS-425/435 there are additional specified capabilities required of this new ruggedized digital camera. The camera would be capable of both underwater and above ground use capable of taking high-resolution stills and low to high-resolution progressively scanned video (user selectable). The minimum still resolution would be 1K by 1K pixels and the minimum video resolution would be 640 by 480 pixels. The video (or motion imagery) would be a minimum of ten frames per second (fps), with 30 fps desired. The video frame rate must be user selectable from 1 to 30 frames per second. The camera must be capable of having interchangeable waterproof (100ft.) lenses for focal lengths of 28mm to 1200mm and a waterproof low light/night vision device. The camera must be autofocus and have SLR-type “through the lens” viewing. The camera shall make no sound perceptible outside a 2 foot range when used above water.

PHASE I: Effort should focus on technological approach for addressing requirement. This should result in the delivering of a Systems Requirements Document and a Preliminary Systems Design Document. Accompanying the Systems Design Document would an in-depth cost estimate for developing three prototype cameras for use in developmental test & evaluation.

PHASE II: Build, test and report on design from Phase I effort.

PHASE III COMMERCIAL APPLICATION: A ruggedized digital camera as described above would have many commercial uses. Photojournalist would have a camera capable of withstanding hard use. Underwater photographers would have a camera not requiring bulky environmental housings. Some of the technology developed might be migrated to the consumer digital camera market that could result in the development of a lower cost less robust (but still more rugged than current digital cameras) version for the consumer camera market. This camera would be have a market with SCUBA hobbyist, backpackers, mountain bikers or anyone requiring a more rugged “sports” camera to meet their needs.